EL188609471US

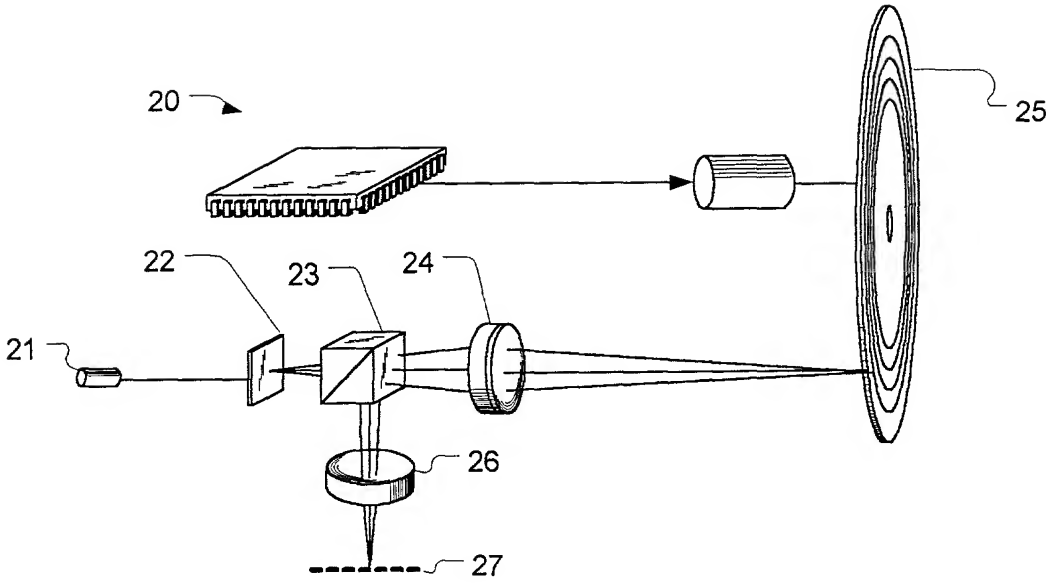


FIG. 1

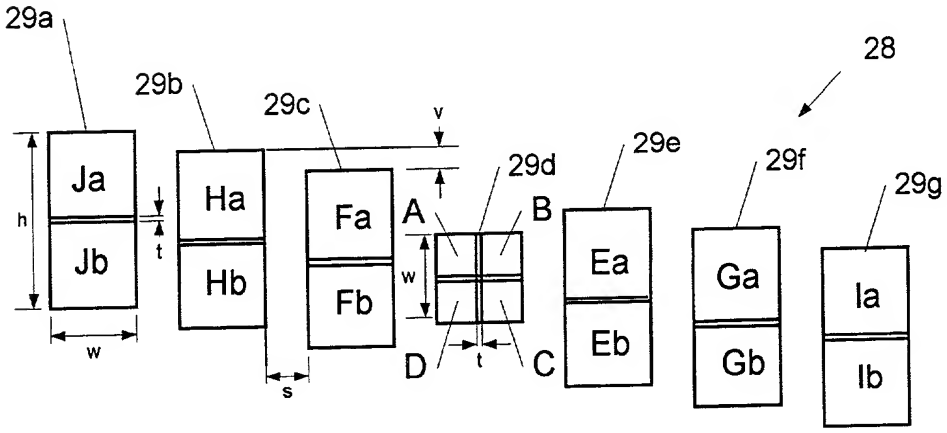

29a
29b
29c
28
v
29d
29e
29f
29g
Ja
Jb
Ha
Hb
Fa
Fb
A
B
C
D
Ea
Eb
Ga
Gb
Ia
Ib
h
w
t
s

FIG. 2A

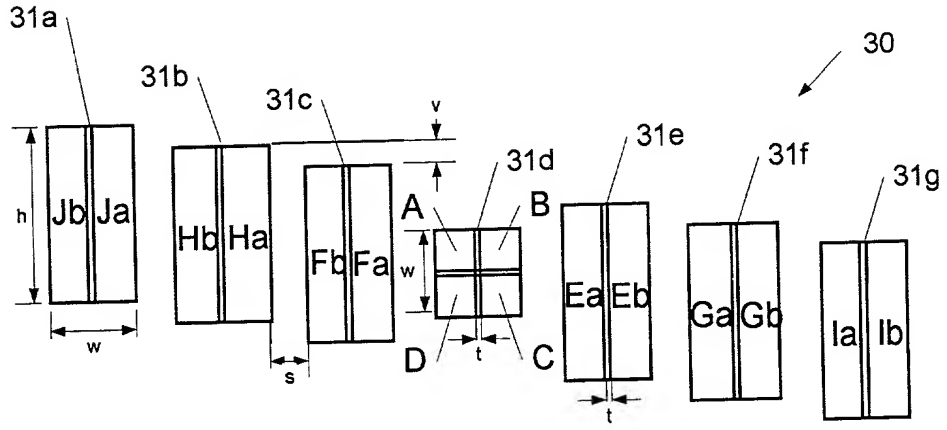

31a
31b
31c
30
v
31d
31e
31f
31g
Jb
Ja
Hb
Ha
Fb
Fa
A
B
C
D
Ea
Eb
Ga
Gb
Ia
Ib
h
w
t
s

FIG. 2B

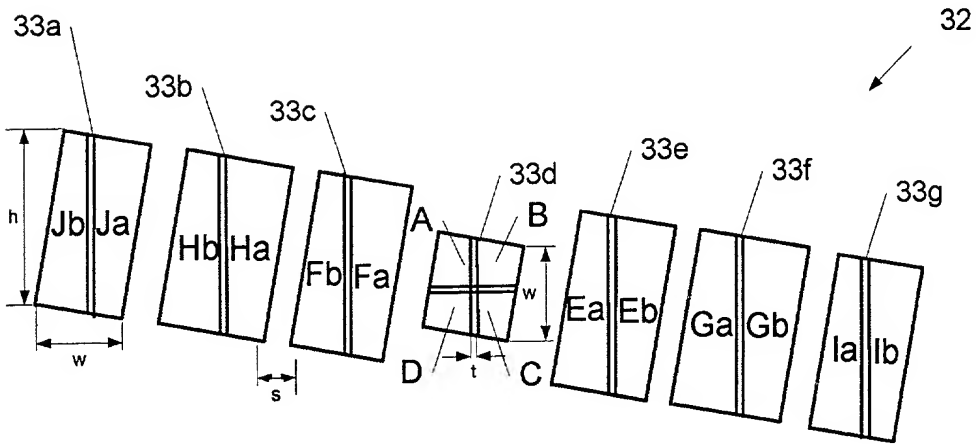
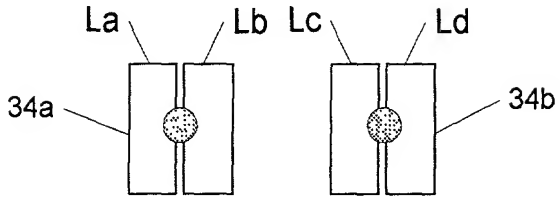
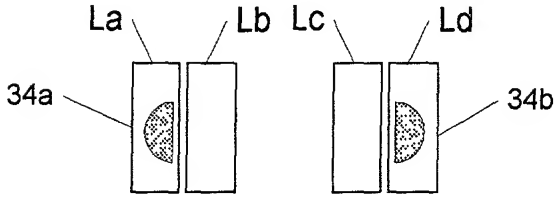

33a
33b
33c
33d
33e
33f
33g
32
h
Jb
Ja
Hb
Ha
Fb
Fa
A
B
w
Ea
Eb
Ga
Gb
Ia
Ib
w
s
D
t
C

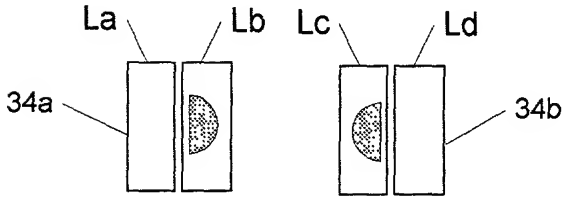
FIG. 2C



Disk in focus

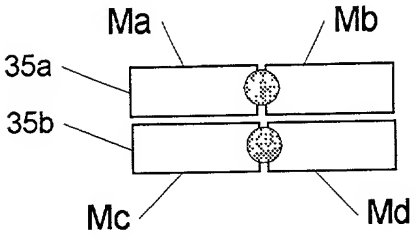


Disk close to objective lens

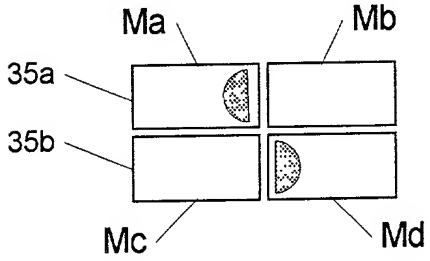


Disk far from objective lens

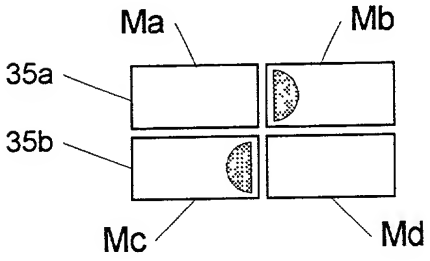
FIG. 3A



Disk in focus



Disk close to objective lens



Disk far from objective lens

FIG. 3B

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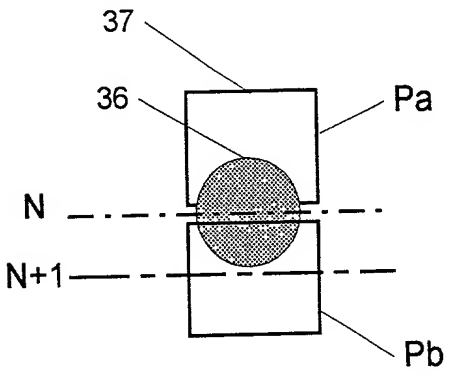

FIG. 4

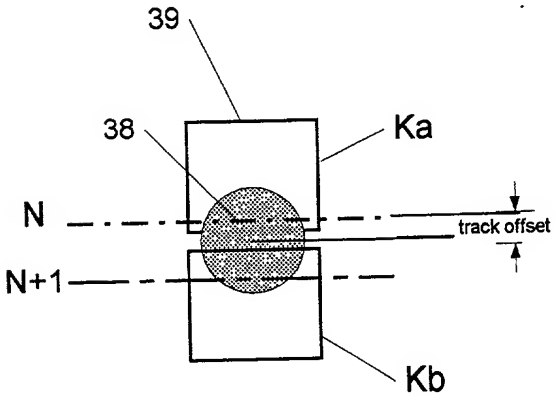

FIG. 5A

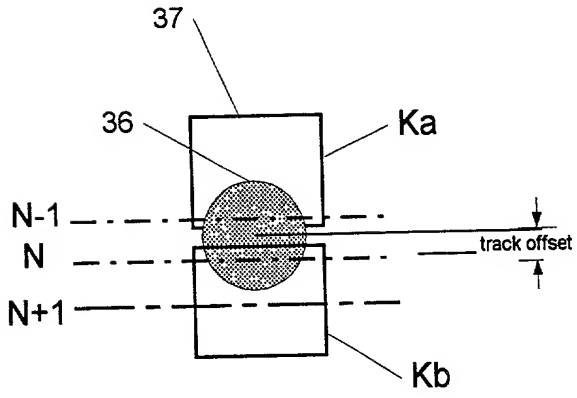

FIG. 5B

Docket No. 8560-0004

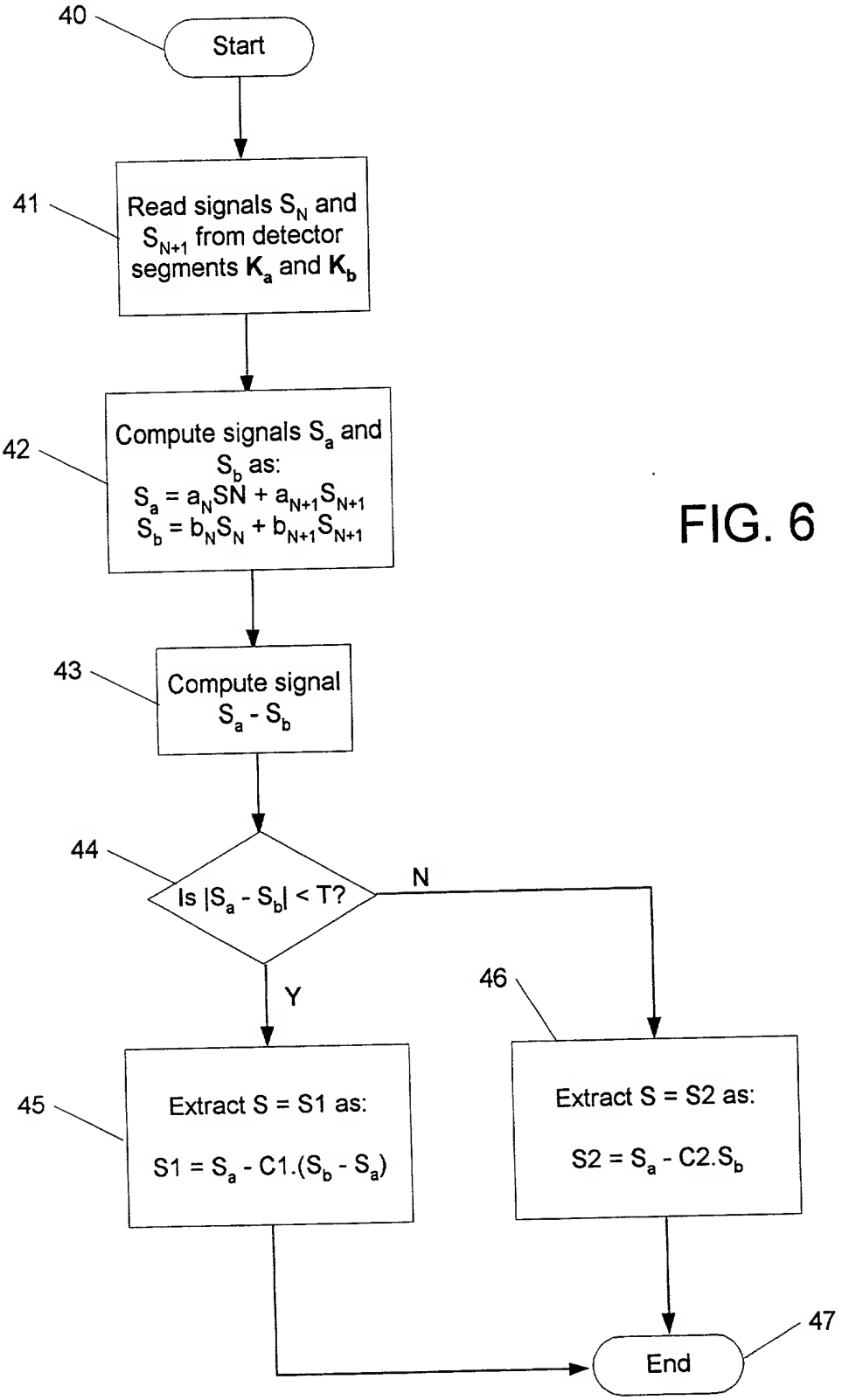
40
Start
41
Read signals S_N and S_{N+1} from detector segments K_a and K_b
42
Compute signals S_a and S_b as:
$S_a = a_N SN + a_{N+1} S_{N+1}$
$S_b = b_N S_N + b_{N+1} S_{N+1}$
43
Compute signal $S_a - S_b$
44
Is $|S_a - S_b| < T$?
N
Y
45
Extract S = S1 as:
$S1 = S_a - C1.(S_b - S_a)$
46
Extract S = S2 as:
$S2 = S_a - C2.S_b$
47
End

FIG. 6

48

Track Offset (% of track pitch)	No split detectors, no cross-talk cancellation	Split detectors, no cross-talk cancellation	No split detectors, with cross-talk cancellation	Split detectors with cross-talk cancellation
0	6.2	6.8	6.2	5.4
7	6.7	6.4	6.1	5.2
14	9.9	6.6	6.6	5.3
21	16.5	6.25	7.8	5.4
29	23.9	5.9	12.5	5.9

FIG. 7

49

Track Offset (% of track pitch)	Coefficient C1 (cross-talk cancellation algorithm 1)	Coefficient C2 (cross-talk cancellation algorithm 2)
0	-0.45	-1
7	-0.32	-0.47
14	-0.21	-0.25
21	-0.1	-0.12
29	0.005	-0.005
36	0.1	0.1
43	0.26	0.21
50	0.4	0.29

FIG. 8

48

Track Offset (% of track pitch)	RMS Ratio (cross-talk cancellation algorithm 1)	RMS Ratio (cross-talk cancellation algorithm 2)
0	0.99	1.99
7	0.95	1.41
14	0.95	1.19
21	0.97	1.08
29	1	1
36	1.06	0.95
43	1.15	0.91
50	1.22	0.87

FIG. 9